

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-265691

(43)Date of publication of application : 15.10.1993

(51)Int.Cl.

G06F 3/14
G06F 3/033

(21)Application number : 04-061760

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(22)Date of filing : 18.03.1992

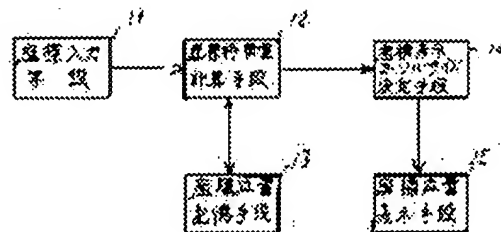
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(54) DISPLAY DEVICE FOR DATA PROCESSOR

(57)Abstract:

PURPOSE: To display a cursor on a coordinate input device so as to easily observe it and to improve the using procedure of the device.

CONSTITUTION: The display device consists of a coordinate input means 11, a coordinate moving variable calculating means 12, a coordinate position storing means 13, a coordinate display cursor size determining means 14, and a coordinate position display means 15, and at the time of inputting a coordinate position, difference between the preceding coordinate position and the current coordinate position is calculated, the size of the coordinate display cursor is changed in accordance with said difference, i.e., a cursor moving speed to easily judge the current coordinate. Since the preceding speed is '0', a newly inputted coordinate position can easily be judged by a large cursor display, and at the time of moving data, the cursor shape is made small and the picture data can easily be observed without being hidden by the cursor.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

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2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the data processor which performs a coordinate input using coordinate input devices, such as a mouse and a pen, and relates to the display of the data processor which does not make screen data hard to see with coordinate display cursor especially.

[0002]

[Description of the Prior Art] When performing a coordinate input in data processors, such as a computer, coordinate input units, such as a mouse and a pen, are well used from the former. When inputting a coordinate with a mouse etc., contacting a mouse etc. on a desk and moving it, simultaneously, coordinate display cursor is made to follow a motion of a mouse etc., and he displays on a CRT screen, and is trying for an operator to always understand the coordinate location.

[0003] In addition, JP,61-131025,A, JP,2-110621,A, etc. are one of things relevant to the conventional technique.

[0004]

[Problem(s) to be Solved by the Invention] This cursor configuration will hide screen data and coordinate display cursor will stop being able to operate them easily, if the cursor configuration to display is enlarged not much. Especially when a mouse etc. performs a coordinate input first, it does not know where display cursor is, but often wavers in many cases.

[0005] The object of this invention is to offer the display of the data processor with which a cursor display hides data display and does not make it hard to see, when performing a coordinate input first, and a cursor location enables it to distinguish easily and begins to move.

[0006]

[Means for Solving the Problem] In the display of the data processor with which the above-mentioned object displays the data of a processing object, and the coordinate display cursor of a coordinate input means A coordinate movement magnitude count means, a coordinate position-memory means, and a coordinate display cursor size decision means, It is attained by having a coordinate position representation means, calculating a difference with a coordinate location last time to a coordinate location input a coordinate location and this time, changing the size of this coordinate display cursor according to the passing speed of coordinate display cursor, and displaying.

[0007]

[Function] When performing a coordinate input first, or when it is during a halt to which the coordinate input is not carried out, the cursor of a big configuration is displayed. The cursor configuration to display is made small as change of an input coordinate value becomes large and a cursor advance rate becomes quick. Since it becomes a small cursor display while becoming legible and moving, since the cursor of a big configuration is displayed by this when it is necessary to look for cursor, hiding lower data is lost.

[0008]

[Example] Hereafter, one example of this invention is explained with reference to a drawing. Drawing 1

is the block diagram of the data processor concerning one example of this invention. This data processor For example, a coordinate input means 11 like a pen coordinate input unit, A coordinate movement magnitude count means 12 to calculate coordinate movement magnitude by calculating the difference of the coordinate location by which the current input was carried out, and the last coordinate location, A coordinate position-memory means 13 to memorize the location inputted before the coordinate by which the current input was carried out, and its one, It consists of a coordinate display cursor size decision means 14 to judge and determine the size of coordinate display cursor based on coordinate movement magnitude, and a coordinate position representation means 15 to display the determined coordinate display cursor on the screen of CRT corresponding to a current coordinate location.

[0009] The coordinate inputted from the coordinate input means 11 is sent to the coordinate movement magnitude count means 12. Here, a coordinate location is taken out last time which is memorized by the coordinate position-memory means 13, and it is calculated, both difference, i.e., movement magnitude. After this count, the coordinate location from the coordinate input means 11 is sent to the coordinate position-memory means 13, and that location is memorized. On the other hand, movement magnitude is sent to the coordinate display cursor size decision means 14, and the decision of cursor size is made based on this information here. The determined cursor size is sent to the coordinate position representation means 15, and the cursor of the magnitude corresponding to the size is displayed here. When the difference of the coordinate location of last time and this time is below constant value at this time, the enlarged display of the coordinate display cursor is carried out.

[0010] Drawing 2 is a flow chart which shows the procedure when displaying pen cursor. This processing is started by the timer interrupt and performed periodically. It is made to start once to the timer interrupt of the count of fixed. For this reason, only when a display timing counter is updated (+1) and this value becomes first more than constant value, the next processing, i.e., the zero clear of a display timing counter, amplification of pen cursor, and a reduced display are performed.

[0011] Drawing 3 is a flow chart which shows the detailed level procedure of amplification of pen cursor, and reduced-display processing. Pen movement magnitude is calculated first. When movement magnitude is below constant value as a result of the count, a pen is mostly judged to be under a halt and performs the enlarged display of pen cursor. Moreover, when [movement magnitude exceeds constant value (i.e., a case)] it is [pen] under migration, the reduced display of pen cursor is performed.

[0012] Drawing 4 is a flow chart which shows the detailed level procedure of pen movement magnitude computation. First, a pen coordinate location is transmitted to a pen coordinate location last time this time, and renewal of a pen coordinate location is started. Next, pen information is READ(ed). Pen rise / down information memorizes this, and, in a pen down, a coordinate location is transmitted to a pen coordinate location this time. Then, the absolute value of a difference with a pen coordinate location is calculated a pen coordinate location and last time this time, and pen movement magnitude is computed.

[0013] Drawing 5 is a flow chart which shows the detailed level procedure of pen cursor enlarged display processing. First, pen cursor size is updated (+1). Consequently, when pen cursor size exceeds maximum, pen cursor size is reset to maximum. Then, the pen cursor of the size is displayed.

[0014] Drawing 6 is a flow chart which shows the detailed level procedure of pen cursor reduced-display processing. First, pen cursor size is updated (-1). Consequently, when pen cursor size becomes below the minimum value, pen cursor size is reset to the minimum value. Then, the pen cursor of the size is displayed.

[0015] Drawing 7 is a flow chart which shows the detailed level procedure of the display process of pen cursor. First, the pen cursor of a location is displayed last time. Next, that judgment is performed during a rise of a pen and a down. Consequently, when a pen is rising, a return is carried out, when a pen is being downed, the cursor display information on the cursor size determined previously is taken up, and this is displayed on the CRT screen corresponding to a pen coordinate location this time.

[0016]

[Effect of the Invention] According to this invention, when performing a coordinate input, since the coordinate location inputted newly can distinguish easily, a coordinate input can be performed easily, and it is effective in user-friendliness improving with a coordinate input unit.